The Case of the LAZY EYE

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, INC.

The material in this publication has been reviewed by consultants with special knowledge in the field of eye health. Their help is acknowledged with sincere appreciation.

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How sure are you that your child can see all that he should be seeing?

Mrs. Carter was positive her Jimmy didn't have any vision problems until a recent preschool vision testing program picked up signs of a vision defect and he was referred to an eye specialist for a complete eye examination. The diagnosis was "lazy eye blindness"...

Q. But, Doctor, what is "lazy eye blindness"?

A. The condition is known medically as *amblyopia ex anopsia.* It is one in which an eye that appears healthy actually has low or poor vision which cannot be helped by wearing glasses.

Q. Why can't it be helped by glasses?

A. Because that part of the eye which is used for careful vision has not developed or learned to see properly. This may be due to muscular imbalance, refractive error or other defect present when the eye is still learning to see. By the age of six the eye should already have learned to see and if it hasn't then it may be too late to learn.

Q. I'm sorry, Doctor, I still don't understand how this happens.

A. Let me try to explain it by using a common example of how amblyopia occurs. A child may have eye trouble that causes him to see a double image instead of one, or images of different size or shape. This confuses him. When he tries to get these two separate pictures to come together as one and fails, he tends to suppress the weaker eye and uses only the stronger one. When this becomes a habit, the vision in the weaker eye is gradually lost.

Q. Why didn't the eye develop properly?

A. Because it wasn't used for achieving detailed vision during that part of life when that function of the eye developed. Development of this part of the visual system occurs primarily before the age of five and almost entirely before age six.

Q. But, if the child is able to see an image or picture, why do they call this lazy eye blindness?

A. Because that central part of the eye which one uses for careful vision, as in reading, has not developed to a point where it can read. The central part of the vision is clumsy just as in the side vision of a person with normal eyes. If you hold a newspaper or piece of reading material to the side and look straight ahead, you can see the paper, you can possibly see that there is writing on it, but you can't read the writing. This is the way a person with a lazy eye sees the paper when he is looking right at it with the amblyopic eye. It is clumsy —that part of vision which should discriminate small details has not developed the power of discrimination because the eye didn't learn it during the time it should have.

Q. How does this cause blindness?

A. Think of this example: You have two arms. Imagine for some reason you decided to put one arm in a sling and keep it there for an entire year. At the end of the year you remove it from the sling; you still have the arm, of course, but it's almost useless because it is so weak. This weakness is from lack of use.

Q. Is the eye affected the same way?

A. Not exactly. The arm becomes obviously withered from lack of use whereas the eye remains outwardly healthy and even to objective examination by the eye doctor appears healthy; but it cannot see and eyeglasses cannot make it see because it has never learned how or, as mentioned earlier, because it has forced itself not to see. This outwardly normal appearance of the eye is one of the great problems of amblyopia because it makes detection more difficult.

Q. Can the child see with the weak eye at all?

A. Oh yes, the child can see at the outer edges of his vision normally. He can see enough to get around with that eye alone, but details of vision that should appear in sharp focus do not.

Q. Once amblyopia sets in will it get better or worse?

A. The condition tends to get slowly poorer until a certain point in childhood and then remains static. It does not improve without treatment.

Q. You said "It does not improve without treatment." Then it can be treated?

A. Yes, amblyopia can be successfully treated during early childhood, if treatment is begun before the age of six. However, if the treatment is begun at three or younger, it is much faster and more successful than after the age of three. After the age of six treatment results in improvement for only a small percentage of cases. It can be started only after the condition has been detected; therefore it is obviously imperative that all children have an eye examination at the age of four or earlier.

Q. How is amblyopia treated?

A. Remember the example of the unused arm that got weak from being bound up in a sling? Well, if that were the problem you would go about strengthening the arm with exercise. You would use it again and again until its normal vitality was restored.

Q. In other words, you would just have to exercise the weak eye all the time and the problem would be solved?

A. Unfortunately, Mrs. Carter, it's not as simple as that. First, the treatment must be instituted early—at age three or before—and unfortunately this condition is frequently not detected until the child has a vision test in school. To encourage use of the weak eye the other eye would have to be patched; otherwise the child would continue to use the stronger eye. Continual use of the weak eye helps to improve it, and *if treatment is started in time,* it may recover normal vision. But even after vision has been recovered, the basic trouble, crossed eyes, muscular imbalance, refractive error or any other condition, must be corrected or the same problem of double vision will return.

Q. I can see how important it is to test children early; Jimmy never complained about his eyes.

A. Of course not; for that matter did he even tell you that he didn't see things the same as other children saw them? Children have no way of knowing whether or not they are seeing properly, and with amblyopia they usually see excellently with the good eye. If you see with one eye you see well but not, of course, quite as well as with two eyes. But still producing good vision in the poor eye is extremely important because if later in life anything such as an injury or a disease should occur to the better eye, Jimmy would have to depend upon the amblyopic eye. If he had treatment for the condition at the age of three, he would be a seeing person who could read and drive a car and so on. Otherwise he would be visually handicapped.

Q. At what age should a child have his first eye examination?

Pre-school vision screening programs are conducted by the National Society for the Prevention of Blindness and its affiliates throughout the country.

A. Certain eye examinations are made when a child is born. But it is imperative that a thorough eye examination be made on all children by the age of four. I have examined youngsters as young as three years who have been referred for examination from National Society for the Prevention of Blindness preschool vision testing programs such as the one in which your Jimmy was picked up.

Jimmy's vision problem was caught in time; but how many children will be destined to partial blindness because their cases went undetected? Have your child's eyes examined regularly and keep watch for the signs that can mean the possibility of eye problems:

- Rubs eyes excessively
- Shuts or covers one eye, tilts head or thrusts head forward
- Has difficulty in reading or in other work requiring close use of the eyes
- Blinks more than usual or is irritable when doing close work
- Stumbles over small objects
- Holds books close to eyes
- Is unable to participate in games requiring distance vision
- Squints eyelids together or frowns

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79 Madison Avenue, New York, N. Y. 10016

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Pub. G-109 PRICE 10 CENTS 9-67-100M

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